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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/826,218	04/04/2001	Henry S. Ptasinski	BU1382.5	2462

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EXAMINER	
MAIS, MARK A	

ART UNIT	PAPER NUMBER
2616	

DATE MAILED: 10/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/826,218	PTASINSKI ET AL.	
	Examiner	Art Unit	
	Mark A. Mais	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 October 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-41* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-41* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 July 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *14 May 02*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. Applicant's claim for the benefit of a prior-filed application under 35 U.S.C. 119(e) from provision applications 60/196,002 and 60/197,224 filed on April 7, 2000 and April 14, 2000, respectively, is acknowledged.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-16, 18-36, and 38-40 are rejected under 35 U.S.C. 102(b) as being anticipated by Li (USP 6,141,353).

4. With regard to claim 1, Li discloses a method for providing dynamic adjustment of frame encoding parameters to improve transmission performance for a transmitting frame being transmitted from a transmitting station to a receiving station over a transmission medium on a frame-based communications network, the transmitting frame having a header segment and a payload segment, the header segment being transmitted using a fixed set of encoding parameters, the payload segment being transmitted using a variable set of payload encoding parameters **[subsequent frame variable data rate indication method, Abstract]**, comprising:

the transmitting station sending the transmitting frame using one set of the variable set of payload encoding parameters at a time **[sending the frame at one of four variable data rates, col. 11, line 65 to col. 12, line 3; see, for example, Figs. 4 and 10]**;

the receiving station:

receiving and decoding the header segment of each transmitting frame **[the header must inherently be decoded for frame reception and synchronization]**, performing a decode process on the payload segment of each transmitting frame, and either decoding the payload segment without errors wherein the frame is considered successfully received, or detecting an error occurrence in the decode process; measuring and tracking the performance of the frame decode process**[the receiver determines what rate to step up/down to and the choice is validated for each processed frame, col. 12, lines 15 to 27; if it gets the rate wrong, the next frame rate is extracted from the payload, col. 12, lines 34-39]**,

determining network performance characteristics for establishing desired performance based upon measuring and tracking the performance of the frame decode process, and *indicating* to the transmitting station changes to the payload encoding parameters based upon determining network performance improvement characteristics **[data rates are determined/monitored, such that after determining the rate of the speech encoded data, the receiving stations sends, to the transmitter, a subsequent frame data rate indication, (col. 14, lines 25-31); thus, it can go from the first full (slowest arte) and then step as necessary, col. 14, lines 42-50]** ; and

the transmitting station changing the one set of the variable set of payload encoding parameters corresponding to the changes to the payload encoding parameters indicated to the transmitting station for encoding next future transmitting frames **[data rates are determined/monitored, such that after determining the rate of the speech encoded data (through analysis such as frame quality and symbol errors, col. 11, line 67 to line 12, line 2), the receiving stations sends, to the transmitter, a subsequent frame data rate indication, (col. 15, lines 30-39; asking for the known full rate); thus, it can go from the first full (slowest rate) and then step as necessary, (col. 14, lines 42-50); then the transmitter steps the rate up to, for example, to full, half, quarter, or eighth structures, col. 14, lines 28-31; Fig. 10]**.

5. With regard to claim 21, Li discloses a method for providing dynamic adjustment of frame encoding parameters to improve transmission performance for a transmitting frame being transmitted from a transmitting station to a receiving station over a transmission medium on a frame-based communications network, the frame-based communication network including a plurality of stations, each station having a unique address, the unique address being used as a source address for transmitting frames being transmitted by the station, and as a destination address for frames transmitted by other stations to be received solely by the station, the transmitting frame including a header segment and a payload segment, the header segment containing a source address and a destination address **[it is inherent in a frame-based system that each frame contains both source and destination (unique) addresses for navigating the frames between two endpoints; e.g., this is required for external data device communicating at variable data rates, col. 17, lines 66-67]**, the header segment further being transmitted using a fixed set of encoding parameters, the payload segment being transmitted using a variable set of payload encoding parameters **[subsequent frame variable data rate indication method, Abstract]**, comprising:

a transmitting station sending the transmitting frame **[sending the frame at one of four variable data rates, col. 11, line 65 to col. 12, line 3; see, for example, Figs. 4 and 10]**,

the transmitting frame containing a transmitting station address as the source address and a desired destination address, the transmitting station using one set of variable set of payload encodings at a time for the desired destination address **[sending the frame at one of four variable data rates, col. 11, line 65 to col. 12, line 3; see, for example, Figs. 4 and 10]**,

a receiving station, using the destination address in the transmitting frame to receive frames: receiving and decoding the header segment of each transmitting frame **[the header must inherently be decoded for frame reception and synchronization]**, performing a decode process on the payload segment of each transmitting frame , and either decoding the payload segment without errors wherein the frame is considered successfully received, or detecting an error occurrence in the decode process, measuring and tracking the performance of the frame decode process for transmitting frames sent by the transmitting station **[the receiver determines what rate to step up/down to and the choice is validated for each processed frame, col. 12, lines 15 to 27; if it gets the rate wrong, the next frame rate is extracted from the payload, col. 12, lines 34-39]**,

determining network performance characteristics for establishing desired performance based upon measuring and tracking the performance of the frame decode process, and indicating to a transmitting station having sent the transmitting frame to the destination address changes to the payload encoding parameters based upon determining network performance improvement characteristics **[data rates are determined/monitored, such that after determining the rate of the speech encoded data, the receiving stations sends, to the transmitter, a subsequent frame data rate indication, (col. 14, lines 25-31); thus, it can go from the first full (slowest arte) and then step as necessary, col. 14, lines 42-50]**; and

the transmitting station having sent the to the destination address changing the one set of the variable set of payload encoding parameters according to the changes to the payload encoding parameters indicated to the transmitting station by the receiving station for encoding next future transmitting frames **[data rates are determined/monitored, such that after determining the rate of the speech encoded data (through analysis such as frame quality and symbol errors, col. 11, line 67 to line 12, line 2), the receiving stations sends, to the transmitter, a subsequent frame data rate indication, (col. 15, lines 30-39; asking for the known full rate); thus, it can go from the first full (slowest rate) and then step as necessary, (col. 14, lines 42-50); then the transmitter steps the rate up to, for example, to full, half, quarter, or eighth structures, col. 14, lines 28-31; Fig. 10]**.

6. With regard to claim 2, Li discloses that the indicating includes rate request control frames from the receiving station back to the transmitting station, said rate request control frames specifying desired payload encoding parameters **[data rates are determined/monitored, such that after determining the rate of the speech encoded data (through analysis such as frame quality and symbol errors, col. 11, line 67 to line 12, line 2), the receiving stations sends, to the transmitter, a subsequent frame data rate indication, (col. 15, lines 30-39; asking for the known full rate); thus, it can go from the first full (slowest rate) and then step as necessary, (col. 14, lines 42-50); then the transmitter steps the rate up to, for example, to full, half, quarter, or eighth structures, col. 14, lines 28-31; Fig. 10]**.

7. With regard to claims 3 and 23, Li discloses that the indicating further includes controlling the number of rate request control frames transmitted **[controlled is interpreted as limiting the number of steps such as, for example, four: full, half, quarter, or eighth structures, col. 14, lines 28-31; Fig. 10]**.

8. With regard to claims 4 and 24, Li discloses that the network that supports multiple data rates, the encoding parameters specify a rate at which the payload segment is transmitted **[the payload segment interpreted as limiting the number of steps such as, for example, four: full, half, quarter, or eighth structures, col. 14, lines 28-31; Fig. 10]**.

9. With regard to claims 5 and 25, Li discloses that the fixed set of encoding parameters is indicative of a base rate by which all stations can receive and decode the transmitting frame with a least likelihood of errors **[the base (full rate) rate halved in successive increments, for example: full, half, quarter, or eighth structures, col. 14, lines 28-31; Fig. 10]**.

10. With regard to claims 6 and 26, Li discloses that the only set of the variable set of payload encoding parameters is selected from a group of multiple sets of encoding parameters **[the transmitter steps the rate up to, for example, to full, half, quarter, or eighth structures, col. 14, lines 28-31; Fig. 10; but, only one rate is chosen per conversation]**.

11. With regard to claims 7 and 27, Li discloses that improved transmission performance is provided by determining optimal network performance characteristics **[data rates are determined/monitored, such that after determining the rate of the speech encoded data (through analysis such as frame quality and symbol errors, col. 11, line 67 to line 12, line 2)]**.

12. With regard to claims 8 and 28, Li discloses that optimal network performance characteristics include decreased error amount or increased speed of transmission **[data rates are determined/monitored, such that after determining the rate of the speech encoded data (through analysis such as frame quality and symbol errors, col. 11, line 67 to line 12, line 2); if the error rate is below a threshold, the rate is valid, col. 12, lines 20-25]**.

13. With regard to claims 9 and 29, Li discloses that the payload encoding parameters control a number of bits transmitted per symbol **[Figs. 4 and 10, for example, 9600 bps, 4800 bps, 2400 bps, and 1200 bps using 20 ms vocoded frames]**.

14. With regard to claims 10 and 30, Li discloses that the payload encoding parameters control a number of symbols transmitted per second **[Figs. 4 and 10, for example, 9600 bps, 4800 bps, 2400 bps, and 1200 bps using 20 ms vocoded frames]**.

15. With regard to claims 11 and 31, Li discloses that the receiving station indicates new payload encoding parameters by transmitting the rate request control frame back to the transmitting station with the new parameter encoding parameters being indicated in a payload segment of the rate request control frame, the payload segment of the rate request control frame being transmitted using the fixed set of encoding parameters **[erasure bit is sent from the receiver to tell the transmitter to transmit the previous frame at a known base (full) rate, col. 15, lines 35-39]**.

16. With regard to claims 12 and 32, Li discloses that the fixed set of encoding parameters is indicative of a base rate by which all stations can receive and decode the transmitting frame with a least likelihood of errors **[the base (full rate) rate halved in successive increments, for example: full, half, quarter, or eighth structures, col. 14, lines 28-31; Fig. 10]** .

17. With regard to claims 13 and 33, Li discloses that the receiving station limits the number of rate request control frames sent during a given time interval **[controlled is interpreted as limiting the number of steps such as, for example, four: full, half, quarter, or eighth structures, col. 14, lines 28-31; Fig. 10]**.

18. With regard to claims 14 and 34, Li discloses that the receiving station sends the rate request control frame in response to reception of a transmitting frame from the transmitting station encoded with payload encoding parameters that do not match preferred payload encoding parameters selected by the receiving station **[erasure bit is sent from the receiver to tell the transmitter to transmit the previous frame at a known base (full) rate, col. 15, lines 35-39]**.

19. With regard to claims 15 and 35, Li discloses that the receiving station sends a rate request control frame in response to reception of some fixed number of frames from the transmitting station encoded with payload encoding parameters that do not match preferred payload encoding parameters selected by the receiving station **[erasure bit is sent from the receiver to tell the transmitter to transmit the previous frame at a known base (full) rate, col. 15, lines 35-39; this is interpreted as at least one (fixed number) frame that does not match]** .

20. With regard to claims 16 and 36, Li discloses that the receiving station sends a rate request control frame in response to receiving some variable number of frames from the transmitting station encoded with payload encoding parameters that do not match preferred payload encoding parameters selected by the station, the variable number of such frames between successive transmissions of rate request control frames being a function of a number of non-matching frames received **[erasure bit is sent from the receiver to tell the transmitter to transmit the previous frame at a known base (full) rate, col. 15, lines 35-39; this is interpreted as at least one (variable number to include zero and one) of frames that do not match]**.

21. With regard to claims 18 and 38, Li discloses that the payload parameters indicated to the transmitting station may include parameters that may not be useable by the transmitting station **[this is exemplified in Figs. 4 and 10 wherein the frame rates selected as different sets (i.e., Fig. 4 max rate of 9600 and Fig. 10 max rate of 14, 400 bps); wherein the receiver would receive incompatible rate parameters, send an erasure bit for a full rate not supported by the transmitter]**.

22. With regard to claims 19 and 39, Li discloses that the payload encoding parameters indicated to the transmitting station include an indication of preference such that the transmitting station should use a most preferred parameter set of which it is capable **[data rates are determined/monitored, such that after determining the rate of the speech encoded data (through analysis such as frame quality and symbol errors, col. 11, line 67 to line 12, line 2), the receiving stations sends, to the transmitter, a subsequent frame data rate indication, (col. 15, lines 30-39; asking for the known full rate); thus, it can go from the first full (slowest rate) and then step as necessary, (col. 14, lines 42-50); then the transmitter steps the rate up to, for example, to full, half, quarter, or eighth structures, col. 14, lines 28-31; Fig. 10; sending for the fastest supported rate is interpreted as an example of the preferred rate of which it is capable]**.

23. With regard to claims 20 and 40, Li discloses that the receiving station sends a payload selection frame periodically even if no transmitting frames were received that had been transmitted using undesired payload encoding parameters **[fixed rate transmissions can be imposed to automatically transmit frames at known rates according to periods known to the receiving station, col. 17, lines 24-31]**.

24. With regard to claim 41, Li discloses that in addition to unique destination addresses for each station, the frame-based communications network includes multicast destination addresses **[CDMA inherently uses a broadcast channel for communication to multiple mobile stations who, upon receipt of the multicast message, either acknowledge the message or start communicating in response to the message by performing all the steps disclosed in claim 21]**.

25. With regard to claim 42, Li discloses that receiving a multicast message **[CDMA inherently uses a broadcast channel for communication to multiple mobile stations who, upon receipt of the multicast message, either acknowledge the message or start communicating in response to the message by performing all the steps disclosed in claim 21]** sends desired payload encoding parameters for the multicast destination address periodically back to the transmitting station, the period being common to all receivers, and the transmitting station, using a timer with common period as that of the receiving stations **[fixed rate transmissions can be imposed to automatically transmit frames at known rates according to periods known to the receiving station, col. 17, lines 24-31]** , keeps track of which receiving stations have recently sent payload parameter indications for the multicast destination address **[CDMA (base station) broadcast channel function]**, and the transmitting station, using recently received payload encoding parameter information, determines the payload encoding parameters to use for the multicast destination address **[data rates are determined/monitored, such that after determining the rate of the speech encoded data (through analysis such as frame quality and symbol errors, col. 11, line 67 to line 12, line 2), the receiving stations sends, to the transmitter, a subsequent frame data rate indication, (col. 15, lines 30-39; asking for the known full rate); thus, it can go from the first full (slowest rate) and then step as necessary, (col. 14, lines 42-50); then the transmitter steps the rate up to, for example, to full, half, quarter, or eighth structures, col. 14, lines 28-31; Fig. 10]**.

26. With regard to claim 43, Li, in a multicast message **[CDMA inherently uses a broadcast channel for communication to multiple mobile stations who, upon receipt of the multicast message, either acknowledge the message or start communicating in response to the message by performing all the steps disclosed in claim 21]**, discloses that periodic transmission of rate request control frames is suppressed if the receiving station has itself sent a transmitting to the multicast destination address **[this is interpreted as the situation where the rate choice evaluations are suspended when fixed rate transmissions are imposed to automatically transmit frames at known rates according to periods known to the receiving station, col. 17, lines 24-31]**.

Claim Rejections - 35 USC § 103

27. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

28. Claim17 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li as applied to claims 1-16, 18-36, and 38-40 above.

29. In Li, the erasure bit is sent from the receiver to tell the transmitter to transmit the previous frame at a known base (full) rate **[col. 15, lines 35-39]**. This is interpreted as either a fixed or variable number of frames that do not match. Moreover, the four rates disclosed are: full, half, quarter, or eighth structures **[col. 14, lines 28-31; Fig. 10]**. This is a CDMA design preference. However, with regard to claims 17 and 37, Li does not disclose that the number of non-matching frames is a upper-bounded binary exponential backoff.

Applicants have not disclosed that number of non-matching frames to binary exponential backoff solves any stated problem or is for any particular purpose. It appears that the performance of the in-use frame encoded parameters would result equally well as the CDMA design choice disclosed in Li. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Li to use the binary exponential backoff as the non-matching frames because such modifications are considered a mere design choice consideration, which fails to patentably distinguish over the prior art of Li. In addition, changing the number of non-matching frames is interpreted as an optimum value for a known process. A discovery of an optimum value for a known process is obvious engineering. *See* In re Aller, 105 USPQ 233 (CCPA 1955).

Conclusion

30. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

(a) Li (USP 5,673,266), Subsequent frame variable data rate indication method.

(b) Li (USP 5,537,410), Subsequent frame variable data rate indication method.

31. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark A. Mais whose telephone number is 572-272-3138. The examiner can normally be reached on M-Th 5am-4pm.

32. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

33. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MAM

September 17, 2006

Seema S. Rao 10/2/06

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